

Application No. 09/490,631
Response to Office Action

Customer No. 01933

Listing of Claims:

Claims 1-24 (Canceled).

25. (New) An electric network simulating method comprising:
defining electric functions of a plurality of circuit
elements as a plurality of element cells;
defining intersections of wiring lines at which at least
5 three circuit elements are connected as intersection cells;
defining a wiring line in which the plurality of elements
cells are connected as a pipe;
defining a wiring line in which the element cells and an
intersection cell are connected as a pipe;
10 defining a wiring line in which the intersection cells are
connected as a pipe;
setting a rule of transfer of particle models between a
plurality of pipes connected to the element cells and a rule of
transfer of particle models between a plurality of pipes
15 connected to the intersection cells;
performing transfers of the particle models between the
plurality of pipes connected to the element cells based on the
rule set with respect to the plurality of element cells, and
performing transfers of the particle models between the plurality

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20 of pipes connected to the intersection cells based on the rule set with respect to the intersection cells;

repeating the transfers until variation in number of particle models and variation in quantity of movement of the particle models, in the plurality of pipes, converge; and

25 determining the number of particle models and the quantity of movement of the particle models in the plurality of pipes.

26. (New) The electric network simulating method according to claim 25, further comprising acquiring voltages of the element cells with reference to the number of particle models in the pipes and acquiring currents of the element cells with reference 5 to the quantity of movement of the particle models in the pipes.

27. (New) An electric network simulating apparatus comprising:

a defining unit configured to (i) define electric functions of a plurality of circuit elements as a plurality of element cells, (ii) define intersections of wiring lines at which three or more circuit elements are connected as intersection cells, 5 (iii) define a wiring line in which the plurality of element cells are connected as a pipe, (iv) define a wiring line in which the element cells and an intersection cell are connected as a

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10 pipe, and (v) define a wiring line in which the intersection cells are connected as a pipe;

a setting unit configured to set a rule of transfer of particle models between a plurality of pipes connected to the element cells and a rule of transfer of particle models between a plurality of pipes connected to an intersection cell; and

15 a determining unit configured to (i) perform transfers of the particle models between the plurality of pipes connected to the element cells based on the rule set with respect to the plurality of element cells, and perform transfers of the particle models between the plurality of pipes connected to the intersection cells based on the rule set with respect to the intersection cells; (ii) repeat the transfers until variation in number of particle models and variation in quantity of movement of the particle models, in the plurality of pipes, converge, and

20 (iii) determine the number of particle models and the quantity of movement of the particle models, in the plurality of pipes.

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28. (New) The electric network simulating apparatus according to claim 27, further comprising a second determining unit configured to determine voltages of the element cells with reference to the number of particle models in the pipes and determine currents of the element cells with reference to the quantity of movement of the particle models in the pipes.

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29. (New) A storage medium storing a simulation program loaded and activated in a computer device, the program activating the computer device to perform the steps of:

defining electric functions of a plurality of circuit

5 elements as a plurality of element cells;

defining intersections of wiring lines at which at least three circuit elements are connected as intersection cells;

defining a wiring line in which the plurality of elements cells are connected as a pipe;

10 defining a wiring line in which the element cells and an intersection cell are connected as a pipe;

defining a wiring line in which the intersection cells are connected as a pipe;

15 setting a rule of transfer of particle models between a plurality of pipes connected to the element cells and a rule of transfer of particle models between a plurality of pipes connected to the intersection cells;

20 performing transfers of the particle models between the plurality of pipes connected to the element cells based on the rule set with respect to the plurality of element cells, and performing transfers of the particle models between the plurality of pipes connected to the intersection cells based on the rule set with respect to the intersection cells;

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repeating the transfers until variation in number of
25 particle models and variation in quantity of movement of the
particle models, in the plurality of pipes, converge; and
determining the number of particle models and the quantity
of movement of the particle models in the plurality of pipes.

30. (New) The storage medium according to claim 29, wherein
the program activating the computer device further generates
determining voltages of the element cells with reference to the
number of particle models in the pipes and determining currents
5 of the element cells with reference to the quantity of movement
of the particle models in the pipes.